Problem 1: "Given 2x - 4y + 5z = -1 with the current values of (x, y, z), what would the new result be after decrementing x by 1, incrementing y by 2, and decrementing z by 2?" The correct answer -21.

Response I/O:

'''The new result is -15'''

INCORRECT

Response CoT:

'''We can write our new result as r = 2(x-1) - 4(y+2) + 5(z-2) = -1 + d

Let's solve term-by-term:

2(x-1) = 2x - 2 = 2x + d\_1, so d\_1 = -2

-4(y+2) = -4y - 8 = -4y + d\_2, so d\_2 = -8

5(z-2) = 5z - 10 = 5z + d\_3, so d\_3 = -10

So, d = d\_1 + d\_2 + d\_3 = -2 - 8 - 10 = -20.

Plugging this into our equation for r, we have that r = -1 - 20 = -21.

The new result is -21'''

CORRECT

Problem 2: "Given -8x - 1y + 3z = -7 with the current values of (x, y, z), what would the new result be after decrementing x by 9, incrementing y by 6, and incrementing z by 5?" The correct answer 74.

Response I/O:

'''The new result is -79'''

INCORRECT

Response CoT:

'''We can write the new equation as -8(x-9) - 1(y+6) + 3(z+5) = -7 + d

Let's solve term-by-term:

-8(x-9) = -8x + 72 = -8x + d\_1, so d\_1 = 72

-1(y+6) = -y - 6 = -y + d\_2, so d\_2 = -6

3(z+5) = 3z + 15 = 3z + d\_3, so d\_3 = 15

So, d = d\_1 + d\_2 + d\_3 = 72 - 6 + 15 = 81.

Plugging this into our equation for r, we have that r = -7 + 81 = 74.

The new result is 74'''

CORRECT

Problem 3: "Given 7x - 9y + 7z = -1 with the current values of (x, y, z), what would the new result be after incrementing x by 0, decrementing y by 4, and decrementing z by 3?" The correct answer 14.

Response I/O:

'''The new result is 35'''

INCORRECT

Response CoT:

'''We can write our new result as r = 7(x+0) - 9(y-4) + 7(z-3) = -1 + d

Let's solve term-by-term:

7(x+0) = 7x = 7x + d\_1, so d\_1 = 0

-9(y-4) = -9y + 36 = -9y + d\_2, so d\_2 = 36

7(z-3) = 7z - 21 = 7z + d\_3, so d\_3 = -21

So, d = d\_1 + d\_2 + d\_3 = 0 + 36 - 21 = 15.

Plugging this into our equation for r, we have that r = -1 + 15 = 14.

The new result is 14'''

CORRECT

Problem 4: "Given 1x + 6y + 3z = -3 with the current values of (x, y, z), what would the new result be after incrementing x by 8, decrementing y by 1, and incrementing z by 9?" The correct answer 26.

Response I/O:

'''The new result is 62'''

INCORRECT

Response CoT:

'''We can write our new result as r = 1(x+8) + 6(y-1) + 3(z+9) = -3 + d

Let's solve term-by-term:

1(x+8) = x + 8 = x + d\_1, so d\_1 = 8

6(y-1) = 6y - 6 = 6y + d\_2, so d\_2 = -6

3(z+9) = 3z + 27 = 3z + d\_3, so d\_3 = 27

So, d = d\_1 + d\_2 + d\_3 = 8 - 6 + 27 = 29.

Plugging this into our equation for r, we have that r = -3 + 29 = 26.

The new result is 26'''

CORRECT

Problem 5: "Given 3x + 7y - 8z = -6 with the current values of (x, y, z), what would the new result be after decrementing x by 3, incrementing y by 0, and decrementing z by 8?" The correct answer 49.

Response I/O:

'''The new result is -15'''

INCORRECT

Response CoT:

'''We can write our new result as r = 3(x-3) + 7(y+0) - 8(z-8) = -6 + d

Let's solve term-by-term:

3(x-3) = 3x - 9 = 3x + d\_1, so d\_1 = -9

7(y+0) = 7y = 7y + d\_2, so d\_2 = 0

-8(z-8) = -8z + 64 = -8z + d\_3, so d\_3 = 64

So, d = d\_1 + d\_2 + d\_3 = -9 + 0 + 64 = 55.

Plugging this into our equation for r, we have that r = -6 + 55 = 49.

The new result is 49'''

CORRECT

Problem 6: "Given 3x + 8y + 3z = -3 with the current values of (x, y, z), what would the new result be after incrementing x by 2, decrementing y by 9, and decrementing z by 1?" The correct answer -72.

Response I/O:

'''The new result is -84'''

INCORRECT

Response CoT:

'''We can write our new result as r = 3(x+2) + 8(y-9) + 3(z-1) = -3 + d

Let's solve term-by-term:

3(x+2) = 3x + 6 = 3x + d\_1, so d\_1 = 6

8(y-9) = 8y - 72 = 8y + d\_2, so d\_2 = -72

3(z-1) = 3z - 3 = 3z + d\_3, so d\_3 = -3

So, d = d\_1 + d\_2 + d\_3 = 6 - 72 - 3 = -69.

Plugging this into our equation for r, we have that r = -3 - 69 = -72.

The new result is -72'''

CORRECT

Problem 7: "Given 2x - 6y - 9z = -5 with the current values of (x, y, z), what would the new result be after decrementing x by 5, decrementing y by 8, and decrementing z by 6?" The correct answer 87.

Response I/O:

'''The new result is 61'''

INCORRECT

Response CoT:

'''We can write our new result as r = 2(x-5) - 6(y-8) - 9(z-6) = -5 + d

Let's solve term-by-term:

2(x-5) = 2x - 10 = 2x + d\_1, so d\_1 = -10

-6(y-8) = -6y + 48 = -6y + d\_2, so d\_2 = 48

-9(z-6) = -9z + 54 = -9z + d\_3, so d\_3 = 54

So, d = d\_1 + d\_2 + d\_3 = -10 + 48 + 54 = 92.

Plugging this into our equation for r, we have that r = -5 + 92 = 87.

The new result is 87'''

CORRECT

Problem 8: "Given 9x + 6y - 2z = 0 with the current values of (x, y, z), what would the new result be after incrementing x by 7, incrementing y by 5, and decrementing z by 4?" The correct answer 101.

Response I/O:

'''The new result is 99'''

INCORRECT

Response CoT:

'''We can write our new result as r = 9(x+7) + 6(y+5) - 2(z-4) = 0 + d

Let's solve term-by-term:

9(x+7) = 9x + 63 = 9x + d\_1, so d\_1 = 63

6(y+5) = 6y + 30 = 6y + d\_2, so d\_2 = 30

-2(z-4) = -2z + 8 = -2z + d\_3, so d\_3 = 8

So, d = d\_1 + d\_2 + d\_3 = 63 + 30 + 8 = 101.

Plugging this into our equation for r, we have that r = 0 + 101 = 101.

The new result is 101'''

CORRECT

Problem 9: "Given -7x + 3y - 7z = 9 with the current values of (x, y, z), what would the new result be after incrementing x by 2, decrementing y by 1, and decrementing z by 2?" The correct answer 6.

Response I/O:

'''The new result is 2'''

INCORRECT

Response CoT:

'''We can write our new result as r = -7(x+2) + 3(y-1) - 7(z-2) = 9 + d

Let's solve term-by-term:

-7(x+2) = -7x - 14 = -7x + d\_1, so d\_1 = -14

3(y-1) = 3y - 3 = 3y + d\_2, so d\_2 = -3

-7(z-2) = -7z + 14 = -7z + d\_3, so d\_3 = 14

So, d = d\_1 + d\_2 + d\_3 = -14 - 3 + 14 = -3.

Plugging this into our equation for r, we have that r = 9 - 3 = 6.

The new result is 6'''

CORRECT

Problem 10: "Given 2x - 9y - 3z = -5 with the current values of (x, y, z), what would the new result be after decrementing x by 7, decrementing y by 4, and decrementing z by 5?" The correct answer 32.

Response I/O:

'''The new result is 49.'''

INCORRECT

Response CoT:

'''We can write our new result as r = 2(x-7) - 9(y-4) - 3(z-5) = -5 + d

Let's solve term-by-term:

2(x-7) = 2x - 14 = 2x + d\_1, so d\_1 = -14

-9(y-4) = -9y + 36 = -9y + d\_2, so d\_2 = 36

-3(z-5) = -3z + 15 = -3z + d\_3, so d\_3 = 15

So, d = d\_1 + d\_2 + d\_3 = -14 + 36 + 15 = 37.

Plugging this into our equation for r, we have that r = -5 + 37 = 32.

The new result is 32'''

CORRECT

Problem 11: "Given -8x + 1y + 2z = -8 with the current values of (x, y, z), what would the new result be after incrementing x by 9, incrementing y by 8, and decrementing z by 1?" The correct answer -74.

Response I/O:

'''The new result is 65'''

INCORRECT

Response CoT:

'''We can write our new result as r = -8(x+9) + 1(y+8) + 2(z-1) = -8 + d

Let's solve term-by-term:

-8(x+9) = -8x - 72 = -8x + d\_1, so d\_1 = -72

1(y+8) = y + 8 = y + d\_2, so d\_2 = 8

2(z-1) = 2z - 2 = 2z + d\_3, so d\_3 = -2

So, d = d\_1 + d\_2 + d\_3 = -72 + 8 - 2 = -66.

Plugging this into our equation for r, we have that r = -8 - 66 = -74.

The new result is -74.'''

CORRECT

Problem 12: "Given -3x - 3y + 8z = 5 with the current values of (x, y, z), what would the new result be after decrementing x by 8, decrementing y by 3, and incrementing z by 9?" The correct answer 110.

Response I/O:

'''The new result is 104.'''

INCORRECT

Response CoT:

'''We can write our new result as r = -3(x-8) - 3(y-3) + 8(z+9) = 5 + d

Let's solve term-by-term:

-3(x-8) = -3x + 24 = -3x + d\_1, so d\_1 = 24

-3(y-3) = -3y + 9 = -3y + d\_2, so d\_2 = 9

8(z+9) = 8z + 72 = 8z + d\_3, so d\_3 = 72

So, d = d\_1 + d\_2 + d\_3 = 24 + 9 + 72 = 105.

Plugging this into our equation for r, we have that r = 5 + 105 = 110.

The new result is 110'''

CORRECT

Problem 13: "Given -1x - 8y - 7z = -3 with the current values of (x, y, z), what would the new result be after decrementing x by 7, incrementing y by 1, and incrementing z by 1?" The correct answer -11.

Response I/O:

'''The new result is -20'''

INCORRECT

Response CoT:

'''We can write the new equation as -1(x-7) - 8(y+1) - 7(z+1) = -3 + d

Let's solve term-by-term:

-1(x-7) = -x + 7 = -x + d\_1, so d\_1 = 7

-8(y+1) = -8y - 8 = -8y + d\_2, so d\_2 = -8

-7(z+1) = -7z - 7 = -7z + d\_3, so d\_3 = -7

So, d = d\_1 + d\_2 + d\_3 = 7 - 8 - 7 = -8.

Plugging this into our equation for r, we have that r = -3 - 8 = -11.

The new result is -11.'''

CORRECT

Problem 14: "Given -2x + 3y + 6z = -9 with the current values of (x, y, z), what would the new result be after incrementing x by 5, decrementing y by 5, and decrementing z by 5?" The correct answer -64.

Response I/O:

'''The new result is 32'''

INCORRECT

Response CoT:

'''We can write our new result as r = -2(x+5) + 3(y-5) + 6(z-5) = -9 + d

Let's solve term-by-term:

-2(x+5) = -2x - 10 = -2x + d\_1, so d\_1 = -10

3(y-5) = 3y - 15 = 3y + d\_2, so d\_2 = -15

6(z-5) = 6z - 30 = 6z + d\_3, so d\_3 = -30

So, d = d\_1 + d\_2 + d\_3 = -10 - 15 - 30 = -55.

Plugging this into our equation for r, we have that r = -9 - 55 = -64.

The new result is -64.'''

CORRECT

Problem 15: "Given -6x - 4y - 9z = -6 with the current values of (x, y, z), what would the new result be after decrementing x by 5, incrementing y by 9, and incrementing z by 5?" The correct answer -57.

Response I/O:

'''The new result is -51'''

INCORRECT

Response CoT:

'''We can write the new equation as -6(x-5) - 4(y+9) - 9(z+5) = -6 + d

Let's solve term-by-term:

-6(x-5) = -6x + 30 = -6x + d\_1, so d\_1 = 30

-4(y+9) = -4y - 36 = -4y + d\_2, so d\_2 = -36

-9(z+5) = -9z - 45 = -9z + d\_3, so d\_3 = -45

So, d = d\_1 + d\_2 + d\_3 = 30 - 36 - 45 = -51.

Plugging this into our equation for r, we have that r = -6 - 51 = -57.

The new result is -57.'''

CORRECT

I/O Accuracy: 0/15 = 0.0

CoT Accuracy: 15/15 = 1.0